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THE Feed SITUATION

BUREAU OF AGRICULTURAL ECONOMICS
UNITED STATES DEPARTMENT OF AGRICULTURE

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Molasses for Feed

SUMMARY

Hot, dry weather in the Midwest has substantially reduced prospects for feed concentrate supplies for the 1947-48 feeding season. Most seriously affected is corn. The oats and barley crops were mostly "made" before the dry spell occurred.

The corn crop this year, on the basis of conditions in mid-August, will amount to 2,437 million bushels, 334 million bushels less than estimated in mid-July, 851 million bushels less than last year's record crop, and the smallest since 1936. The size of the corn crop is especially important in the feed situation. Corn usually makes up more than 70 percent of the total feed grain production and more than half of the total feed concentrate supply.

This year's production of feed grains (corn, oats, barley, and sorghum grain), according to August estimates, will total about 97 million tons, 22 percent less than in 1946, and the smallest since 1939. However, a larger carry-over of old crop feed grain this year than last will partly offset the smaller production. Supplies of byproduct feeds for the 1947-48 feeding season probably will be near the largest of record. In addition, larger quantities of wheat are likely to be fed, because of the record crop and the high price of corn in relation to wheat.

The total supply of feed concentrates for the 1947-48 feeding season (October-September), according to August estimates will be 143 million tons. This would be 12 percent less than the large 1946-47 supply and smaller than in other recent years, but slightly larger than the 1937-41 average. With fewer livestock to be fed than in other recent years, the supply per animal unit is close to the average for the past 10 years.

Hay supplies per animal unit for 1947-48 probably will be the largest on record.

Total livestock feed requirements are expected to be smaller in 1947-48 than in 1946-47. Fewer cattle, sheep, and workstock probably will be on farms than a year earlier and about the same number of chickens. About as many hogs may be fed, but they probably will not be fed to as heavy weights.

Feed grain prices continue very high and are expected to average higher this fall and winter than in 1946-47. Corn prices have been the highest ever recorded. Some seasonal decline is expected this fall, but the extent of the decline will depend largely on the outcome of the corn crop. The seasonal summer decline in prices of other feed grains has not been as great this year as usual, primarily because of the strengthening effect of very high corn prices. Even though hay supplies per animal are large, hay prices may average about as high as in 1946-47, partly because of the reduced supplies of feed grain.

(For release September 10, a.m.)

Table 1.- Statistical Summary

PRICES

Item	Unit	1945		1946		1947	
		July	Aug.	July	Aug.	July	Aug.
		Cents	Cents	Cents	Cents	Cents	Cents
Grains and Hay							
Corn, No. 3 Yellow, Chicago	Bushel	117.9	118.0	216.7	193.1	216.9	1/239.6
Price received by farmers, U. S.	"	112.0	113.0	196.0	180.0	201.0	219.0
Oats, No. 3 White, Chicago	"	68.2	61.7	82.2	77.7	95.2	1/103.5
No. 3 White, Minneapolis	"	65.6	57.7	81.4	74.8	99.3	1/103.4
Price received by farmers, U. S.	"	65.9	58.9	84.7	73.4	92.2	94.8
Barley, No. 3, Minneapolis	"	117.3	113.9	161.1	160.9	213.0	1/210.0
Price received by farmers, U. S.	"	98.9	98.7	140.0	130.0	157.0	161.0
Grain sorghums, price received by farmers, U. S.	100 pounds	204.0	207.0	304.0	276.0	273.0	286.0
Wheat, No. 2 Hard Winter, Kansas City	Bushel	158.3	159.8	197.8	193.8	228.8	1/230.7
		Dollars	Dollars	Dollars	Dollars	Dollars	Dollars
Hay, No. 1 Alfalfa, Kansas City	Ton	23.80	23.00	29.60	29.40	25.67	1/29.35
Price received by farmers, U. S.	"	15.40	14.60	15.00	15.10	15.10	15.30
Byproduct Feeds (bagged)							
Standard bran, Minneapolis	Ton	37.75	37.75	65.90	51.05	58.90	58.60
Buffalo	"	41.55	41.55	70.95	57.10	63.90	64.40
Price paid by farmers, U. S.	100 pounds	2.41	2.42	3.46	3.59	3.47	3.64
Standard middlings, Minneapolis	Ton	37.75	37.75	67.25	51.80	70.50	64.50
Buffalo	"	41.55	41.55	70.95	59.50	75.60	69.40
Price paid by farmers, U. S.	100 pounds	2.43	2.44	3.47	3.60	3.89	3.98
Cottonseed meal, 41 pct. protein, Memphis	Ton	48.50	48.75	100.00	95.00	79.45	83.25
Linseed meal, 32 pct. protein, Minneapolis	"	45.50	45.50	89.50	84.50	78.40	77.90
30 pct. protein, San Francisco	"	47.00	47.25	73.75	84.95	69.60	72.00
Soybean meal, 41 pct. protein, Chicago	"	52.00	52.00	97.00	93.15	89.75	91.90
Price paid by farmers, U. S.	100 pounds	3.11	3.12	4.32	4.99	4.78	5.08
Peanut meal, 45 pct. protein, S.E. milling points	Ton	53.00	53.00	98.40	67.25	80.45	80.75
White hominy feed, Chicago	"	49.00	48.95	84.35	66.90	79.10	79.15
Gluten feed, 23 pct. protein, Chicago	"	41.25	41.25	65.75	69.40	61.70	69.25
Tankage, digester, 60 pct. protein, Chicago	"	74.55	74.55	112.45	108.45	106.40	113.50
Meat scraps, Chicago	"	73.50	73.50	110.85	108.60	105.20	113.50
Fish meal, San Francisco	"	79.50	79.50	89.50	89.50	150.75	150.75
Alfalfa meal, No. 1 fine, Kansas City	"	42.50	44.70	47.70	43.85	33.60	38.20
Mixed dairy feed, 16 pct. protein, price paid by farmers, U. S.	100 pounds	2.88	2.90	3.81	3.93	3.91	4.03
Laying mash, price paid by farmers, U. S.	"	3.58	3.61	4.59	4.72	4.87	5.04
Scratch feed, price paid by farmers, U. S.	"	3.24	3.31	4.37	4.40	4.79	4.88

INDEX NUMBERS OF PRICES

Item	Base	1945 July	1945 Aug.	1946 July	1946 Aug.	1947 July	1947 Aug.
		Percent	Percent	Percent	Percent	Percent	Percent
Feed grains, price received by farmers, U. S.	1910-14=100	172	169	280	255	291	313
Ten principal high-protein feeds, terminal markets	1935-39=100	166	166	296	286	267	280
Four oilseed meals	"	166	166	322	307	269	280
Tankage, meat scraps, and fish meal	"	166	166	226	221	267	277
Gluten feed, brewers' dried grains, and distillers' dried grains	"	167	166	261	272	256	286
Feed, prices paid by farmers, U. S.	1910-14=100	175	175	245	249	254	267

LIVESTOCK-FEED PRICE RATIOS 2/

(August average)	Unit	1945 July	1945 Aug.	1946 July	1946 Aug.	1947 July	1947 Aug.
Hog-corn, Chicago 1926-45 = 11.7	Bushel	12.3	12.3	8.3	10.8	10.2	9.8
Hog-corn, U. S. farm prices 1926-45 = 11.7	"	12.5	12.4	8.6	11.6	11.7	11.1
Beef steer-corn, Chicago 1926-45 = 14.6	"	14.1	13.9	9.9	11.2	12.8	12.1
Butterfat-feed, U. S. 3/ 1926-45 = 23.7	Pound	27.5	27.3	21.7	22.7	20.6	20.5
Milk-feed, U. S. 3/ 1926-45 = 1.24	"	1.35	1.36	1.06	1.17	1.02	1.04
Egg-feed, U. S. 1936-45 = 12.5	"	13.1	14.0	9.4	10.0	10.9	10.9

Prices compiled from Chicago Journal of Commerce, Minneapolis Daily Market Record, Kansas City Grain Market Review, and reports of the Grain Branch, Production and Marketing Administration, and the Bureau of Agricultural Economics.

1/ Average prices for the three weeks ended August 23.

2/ Units of corn or other concentrate ration equal in value to 100 pounds of hog or beef-steer, pounds of butterfat or milk, or dozen eggs.

3/ Includes dairy production payments through June 30, 1946.

OUTLOOK

Prospects for Feed Supply for 1947-48 Reduced by Hot, Dry Weather in Corn Belt

Droughty conditions over large areas of the Corn Belt have substantially reduced prospects for 1947 corn production but had little effect on production of other feed grains. The corn crop usually is about 70 to 75 percent of the total feed grain production, and 50 to 60 percent of all feed concentrate supplies.

The total corn crop was forecast in mid-August at 2,437 million bushels, a drop of 334 million bushels from the mid-July forecast, and 851 million bushels below the 1946 record. A crop of this size, plus the expected carry-over of around 350 million bushels, would give a total supply for 1947-48 of about 2.8 billion bushels. This would be about 675 million bushels less than the 1946-47 supply, and the smallest since 1937.

Table 2.- Corn: Supplies, by regions, 1941-46, and estimated supplies for 1947-48 1/

Year	North Atlantic	East North Central	West North Central	South Atlantic	South Central	Western	United States
	Mil. bu.	Mil. bu.	Mil. bu.	Mil. bu.	Mil. bu.	Mil. bu.	Mil. bu.
Average							
1941-45 2/	101	1,048	1,565	210	393	35	3,352
1946	111	1,143	1,581	222	375	29	3,461
1947 3/	103	870	1,200	225	365	27	2,790

1/ Total production, plus October 1 stocks in all positions.
2/ Includes 1943-45 average of interior mill, elevator, and warehouse stocks.
3/ Estimated production as of August 15, plus expected stocks on October 1.

The amount of wheat to be fed during the 1947-48 wheat marketing year is likely to exceed the 190 million bushels fed during 1946-47 by a substantial margin. Factors responsible for the expected increase would be the record wheat crop, a sharp drop in corn production from 1946, and the current high price of corn in relation to wheat.

The supply of feed concentrates (including feed grains, byproduct feeds, and an estimated 10 million tons of wheat and rye to be fed) for 1947-48, on the basis of conditions to mid-August, will total 143 million tons. This would be 12 percent less than the large 1946-47 supply, and the smallest since 1940. With fewer livestock on farms, the total supply per animal unit may be close to the 1937-46 average. Supplies per animal unit, however, probably will be smaller than during recent years, when the quantity of feed grains used by industry and for livestock feeding were at substantially higher levels than in the immediate prewar period.

Table 3. - Feed balance, livestock numbers, and feed per unit of livestock, United States, year beginning October, 1937-47

Item	Average 1937-41	1942	1943	1944	1945	1946 1/	1947 2/
	Mil. tons	Mil. tons	Mil. tons	Mil. tons	Mil. tons	Mil. tons	Mil. tons
Supply							
Stocks beginning of crop year 3/	16.9	18.5	3/17.8	11.6	14.9	10.9	15.5
Production							
Corn	72.1	85.9	83.0	86.5	80.7	92.1	68.2
Oats	18.1	21.5	18.2	18.4	24.6	24.1	19.6
Barley	6.9	10.3	7.8	6.6	6.4	6.3	7.0
Sorghum grain	2.2	3.1	3.1	5.2	2.7	3.0	2.6
Total feed grains produced	99.3	120.8	112.1	116.7	114.4	125.5	97.4
Other grains fed 4/	4.8	15.1	16.0	10.8	8.4	6.4	10.0
Byproduct feeds for feed	15.4	18.6	18.8	19.3	17.8	19.8	20.0
Total supply of concentrates	136.4	173.0	164.7	158.4	155.5	162.6	142.9
Utilization							
Domestic feed grains fed	85.4	109.0	104.4	99.4	107.6	102.2	
Domestic wheat and rye fed	4.6	12.2	9.6	8.4	8.2	6.3	
Other grain fed	.2	2.9	6.4	2.4	.2	.1	
Oilseed cake and meal	3.9	6.1	6.3	6.2	5.8	5.8	
Animal protein feeds	2.9	2.9	2.8	2.6	2.5	2.4	
Other byproduct feeds	8.6	9.6	9.7	10.5	9.5	11.6	
Total concentrates fed	105.6	142.7	139.2	129.5	133.8	128.4	
Feed grains for seed, human food, industry, and export	11.8	13.1	12.6	15.0	13.1	18.7	
Total utilization	117.4	155.8	151.8	144.5	146.9	147.1	
Total utilization adjusted to crop year basis	116.5	156.8	153.1	143.5	144.6	147.1	
Stocks at end of crop year 3/	19.9	5/16.2	11.6	14.9	10.9	15.5	
Number of grain-consuming animal units January 1 following (million) 6/	152.8	160.7	172.6	147.6	146.6	138.0	137.0
Supply of all concentrates per animal unit	1.03	1.08	.95	1.07	1.06	1.18	1.04
Utilization of all concentrates for feed per animal unit	.79	.89	.81	.88	.91	.93	

1/ Preliminary. Subject to change as additional data become available.

2/ Based on indications in August.

3/ Stocks of corn October 1 and oats and barley July 1; stocks on farms and at terminal markets 1937-42. Stocks in all positions, including interior mill, elevator, and warehouse stocks, 1943 to date.

4/ Imported grain and domestic wheat and rye fed.

5/ Stocks at the end of the 1942-43 marketing year, excluding grain at interior mills, elevators, and warehouses, are used in computing 1942-43 disappearance.

6/ Grain-consuming animal units weighted as follows: milk cows 1.00, other cattle 0.51, hogs, 0.87, sheep 0.04, horses and mules 1.14, chickens, 0.045.

Table 4.- Feed grains: Production, United States, 1939-47 1/

Year	Corn		Oats	Barley	Sorghum grain	Total
	All purposes	For grain				
	1,000 bushels	1,000 bushels	1,000 bushels	1,000 bushels	1,000 bushels	1,000 tons
Average 1939-43	2,744,912	2,486,648	1,173,835	340,880	94,367	106,462
1944	3,088,110	2,801,993	1,149,260	276,112	184,962	116,661
1945	2,880,933	2,593,752	1,535,676	266,833	97,014	114,357
1946	3,287,927	2,989,887	1,509,867	263,350	106,737	125,529
1947 2/	2,436,696	3/	1,223,624	289,845	93,190	97,370

1/ Revised.
2/ August indications.
3/ Not yet available.

The 1947 production of the four principal feed grains, on the basis of conditions in August, will be 22 percent smaller than in 1946. The total 1947-48 supply of feed grains, including the larger carry-over, would be about 113 million tons, or 17 percent smaller than in 1946-47, and the smallest in recent years. The oats supply for 1947-48 is about 17 percent smaller than the 1946-47 supply, while the barley supply is about 7 percent larger. Grain sorghum production this year will total about 93 million bushels, or about 13 percent smaller than the 1946 production, and a little below the average of the past 5 years.

Dry weather had the greatest effect on feed-grain prospects in the Corn Belt, especially in areas west of the Mississippi River and in Illinois. Conditions through mid-August pointed to a 25 percent smaller feed grain supply than last year in the East North Central Region and to a 19 percent smaller supply in the West North Central Region . Feed supplies per animal in the Corn Belt will be much smaller than for the 1946-47 feeding season and smaller than in most recent years.

Table 5.- Feed grain supplies, by regions, 1939-47 1/

Geographic division	Average 1939-43 2/	1944	1945	1946	1947 3/
	1,000 tons	1,000 tons	1,000 tons	1,000 tons	1,000 tons
North Atlantic	4,129	3,915	4,147	4,596	3,942
East North Central	36,776	33,904	37,653	41,490	31,173
West North Central	59,781	62,441	59,438	63,069	51,045
South Atlantic	6,558	6,817	7,463	7,363	7,384
South Central	14,969	15,270	14,637	14,665	14,115
Western	4,750	5,733	5,449	5,095	5,068
United States	126,963	128,080	128,787	136,278	112,727

1/ Production of corn, oats, barley, and sorghum grains, plus stocks of corn October 1 and oats July 1 in all positions, and farm and terminal market stocks of barley June 1.
2/ Does not include interior mill, elevator, and warehouse stocks, data for which are not available prior to 1943. 3/ August indications.

Byproduct Feed Supply Prospects Favorable

The supply of byproduct feeds for 1947-48 probably will be about as large as the 1946-47 record. Supplies of oilseed cake and meal are now expected to be about 10 percent higher than in 1946-47. This increase is due almost entirely to prospects for a larger production of cottonseed and linseed cakes and meals, from larger cottonseed and flaxseed crops. Soybean cake and meal production is expected to be smaller in 1947-48 than in the current season. The soybean crop was estimated on August 1 to be 4 percent smaller than the 1946 crop.

Production of grain byproduct feeds is expected to be heavy in 1947-48, although it may be a little smaller than the very large output for this year. Wheat milling is expected to continue heavy in 1947-48 and wheat millfeed production probably will be large. Because of smaller corn supplies, corn processing may be reduced during the coming year and the output of byproduct feeds from corn processing industries may be somewhat smaller than in 1946-47.

Table 6.- Byproduct feeds: Estimated use for feed, year beginning October, 1938-47 1/

Item	Average 1938-42	1943	1944	1945	1946 2/	1947 3/
	1,000 tons	1,000 tons	1,000 tons	1,000 tons	1,000 tons	1,000 tons
Mill byproducts 4/	6,933	8,098	8,931	7,828	9,600	9,150
Oilseed cake and meal 5/	4,444	6,255	6,206	5,807	5,800	6,350
Animal proteins 6/	2,946	2,816	2,606	2,459	2,445	2,450
Other byproduct feeds 7/	1,920	1,600	1,600	1,700	2,000	2,000
Total	16,243	18,769	19,343	17,794	19,845	19,950

1/ Production plus imports; excludes exports, utilization for food, and other nonfeed uses. 2/ Preliminary; subject to change as additional data become available. 3/ Tentative, based on August 1 indications. 4/ Wheat millfeeds, rice millfeeds, dried and molasses beet pulp, gluten feed and meal, brewers' dried grains, distillers' dried grains, and alfalfa meal. 5/ Soybean, cottonseed, linseed, peanut, and copra cake and meal. 6/ Tankage and meat scraps, fish meal, dried milk products, and other milk products. 7/ Tentative estimate of hominy feed, oat millfeeds, molasses, and screenings.

Smaller feed requirements in prospect for 1947-48

Livestock feed requirements for 1947-48 are expected to be smaller than in 1946-47. Farmers probably have reduced the number of cattle, sheep, and workstock on farms during the past year. The number of chickens on farms is probably about the same as a year ago. On the basis of the size of this year's spring pig crop and the breeding intentions for fall farrowing, there would be at least as many hogs to be fed this fall and winter as last. However, hogs may not be fed to as heavy weights as during the past several months. In addition, slaughter of sows was exceptionally heavy in early August, reflecting, at least in part, a below average hog-corn price ratio and prospects for less corn in 1947-48 than in the current feeding season. If slaughter continues heavy it would indicate that farmers will raise fewer hogs than they had planned earlier.

Although 40 percent larger than last year, the number of cattle on feed for market in the Corn Belt on August 1 was about one-fourth smaller than two years earlier, and smaller than on August 1 for the 5 years prior to 1945. The relation between feed prices and cattle prices has been favorable for cattle feeding during most of the current feeding season. However, beef-cattle feed-price relationships probably will be somewhat less favorable for cattle feeders this fall and winter th last.

With higher feed prices in prospect for this fall and winter than last, livestock-feed price ratios in general probably will be less favorable during the next several months than a year earlier.

Smaller Marketings of Feed Grains In Prospect

Receipts of corn at 12 principal markets in the first half of 1947 were the largest on record. Receipts declined less than seasonally from January through mid-July, then dropped off sharply in late July and early August, as prospects for the 1947 crop became less favorable. Corn marketings will be seasonally small unti October or November. Farm marketings of 1947 corn, which will begin in volume in October or November, are expected to be considerably less than from the 1946 crop.

Table 7. Feed grains: Receipts at primary markets, June-July, 1945-46, and May-July 1947

Item	1945		1946		1947		
	June	July	June	July	May	June	July
	1,000 bu.	1000 bu.	1000 bu.	1000 bu.	1000 bu.	1000 bu.	1000 bu
Corn, 12 markets 1/	32,618	33,314	11,396	24,122	38,060	42,481	38,790
Oats, 12 markets 1/	7,829	11,929	6,114	25,692	13,916	12,441	16,226
Barley, 4 markets 2/	11,265	9,602	4,668	8,284	8,449	8,253	8,138

Compiled from reports of the Grain Branch, Production and Marketing Administration.
1/ Chicago, Milwaukee, Minneapolis, Duluth, St. Louis, Kansas City, Peoria, Omaha, Indianapolis, Sioux City, St. Joseph, and Wichita.
2/ Minneapolis, Milwaukee, Chicago, and Duluth.

Receipts of oats at principal markets increased seasonally in July with the harvesting of the new crop. Although much above average, July and early August receipts were considerably smaller than a year earlier. Farmers are expected to market less oats from this year's crop than during the past season, and receipts at primary markets probably will continue below those of a year ago. Monthly receipts of barley remained fairly stable from April through July. Marketings by farmers usually increase seasonally in the Midwest from July to August. Farm sales from the 1947 crop probably will be about as large as the quantity sold from the 1946 crop for the country as a whole, but sales from the California crop are expected to be smaller than last year.

Corn Prices at Record Level

Feed-grain prices are expected to average considerably higher this fall and winter than in 1946-47. Corn prospects will continue to be the chief influence on feed-grain prices during the next month or two. Some seasonal decline in corn prices is expected in the last quarter of 1947, but the extent of the decline will depend largely on the outcome of the 1947 crop. The seasonal decline in corn prices from August to December during 1922-41 averaged about 17 percent. Oats and barley prices, on the other hand, usually increase slightly during this period.

Unfavorable prospects for corn and the very strong demand for feed were the main causes for the advance in corn prices to record levels in late July and August. No. 3 Yellow corn at Chicago averaged $2.48 per bushel during the week ending August 23, the highest weekly average on record and 54 cents higher than a year earlier. During the first three weeks of August, No. 3 Yellow corn averaged 9 cents per bushel higher than No. 2 Hard Winter wheat at Kansas City. The price of corn has averaged higher than wheat during August in only 2 of the past 40 years. Market prices of oats and barley were generally above the May level during July and August, although prices of these grains usually decline at this season. Oats and barley were higher than a year earlier, but were below the records set in the World War I period.

The general level of byproduct feed prices remained high during July and August. During August prices of wheat millfeeds declined around $10 per ton, while prices of most other byproduct feeds advanced.

Hay Prices Decline More Than Seasonally; Supplies Large

Hay prices declined more than seasonally from January to July. In July the average price received by farmers was $15.10 per ton, about the same as in July last year. Hay prices in 1947-48 are expected to average about as high as during the past season. The effect of larger supplies per animal on price may be largely offset by smaller supplies of feed concentrates.

The total 1947-48 hay supply, based on conditions in early August, will be about 119 million tons, a little smaller than last year, but 10 percent above the 10-year average. There are fewer hay-consuming animal units on farms than in other recent years, and the prospective hay supply per animal is the largest on record.

Table 8. - Hay supplies and pasture condition, by regions, average 1936-45, 1946, and 1947

Geographic division	Hay supplies 1/			Pasture condition 2/		
	Average 1936-45	1946	1947 3/	Average 1936-45	1946	1947 3/
	1,000 tons	1,000 tons	1,000 tons	Percent	Percent	Percent
North Atlantic ...	14,274	17,127	16,423	76	81	92
East North Central	23,424	24,922	24,337	75	81	89
West North Central	30,217	33,912	34,508	72	78	91
South Atlantic ...	6,128	7,471	6,546	80	86	81
South Central	12,068	14,290	13,837	74	74	76
Western	21,928	23,745	23,574	78	76	82
United States	108,039	121,467	119,225	75	78	86

1/ Total production plus farm stocks May 1. 2/ Condition August 1 as a percentage of "normal." 3/ Indicated August 1.

Molasses for Feed

Industrial molasses is an important feed for many livestock producers in this country. 1/ A large part of the molasses used in this country is imported from Cuba or shipped in from Hawaii and Puerto Rico. Most of the domestic production is in the South and West. Considerable quantities go into commercial mixed feeds, especially dairy feeds. In the West and the South, a fairly large amount of molasses is sprayed on or mixed with coarse feeds to increase consumption of such feeds.

Between 275 and 500 million gallons of industrial molasses were used for all purposes in the United States during each of the past 10 years. From 60 million to over 100 million gallons (including hydrol) have been used each year for livestock feed.

Before the war, very little information was available on the quantities of molasses used for purposes other than for alcohol and distilled spirits. During the war, however, much information was collected on the supply and utilization of molasses, in connection with the administration of Conservation order M-54. Recently, these data were summarized and published in a report on Industrial Molasses by the United States Tariff Commission. 2/ The report reveals that during 1943-46 utilization of cane and beet molasses for feed ranged from 49 million to 82 million gallons annually, or 14 to 30 percent of the total utilization of cane and beet molasses for industrial purposes. In addition, about 12 million gallons of hydrol (corn sugar molasses) were fed during each of those years.

During the war, practically all imported industrial molasses was used for alcohol production, but considerable quantities of domestically produced molasses were used for feed. The quantity of molasses fed during the war years probably was smaller than in the immediate prewar years. Feeding of molasses has been increasing since 1942. In 1946-47, more than 100 million gallons of cane and beet molasses probably were fed. Estimates of utilization of molasses for various purposes, including feed, are shown in table 10.

In addition to inshipments and imports, the United States produces about 40 to 60 million gallons of cane-sugar molasses annually and from 20 to 30 million gallons of beet molasses for industrial and feed uses. Domestic cane-sugar plants are located principally in Louisiana and the North Atlantic States. Beet-sugar molasses is produced largely in the Western States and in the Great Lakes area.

During the war, 80 to 85 percent of the cane and beet sugar molasses fed to livestock went into commercial mixed feeds. Most of this was cane-sugar molasses and was largely used in the South and in North Atlantic States. While the greater part of the molasses fed during the past few years has been as an ingredient of mixed feeds, about 10 to 20 million gallons were sold direct to livestock feeders. The greater part of this was sprayed on silage and other rough feeds to improve palatability and increase the quantities consumed. Only a small quantity of molasses is fed straight, most of it to cattle being fattened for market.

1/ Industrial molasses, discussed in this report, includes blackstrap (cane) molasses, beet molasses, and hydrol (corn sugar molasses). These are the final or exhaust molasses obtained in the manufacture of cane, beet, or corn sugar, excluding beet molasses for desugarizing.

2/ "Industrial Molasses: United States Supply and Utilization, 1943-46," United States Tariff Commission, July 1947.

Table 9.- Industrial cane and beet sugar molasses: Production, imports, inshipments, and utilization, United States, 1930-46

Year beginning July	Production 1/	Imports 2/	Inshipments 2/	Total	Domestic utilization					Exports 2/	Total disappearance 5/
					Products of alcohol plants and distilleries 3/	Other uses			Total		
						Yeast, citric acid, and vinegar 4/	Livestock feed 4/	Miscellaneous uses 4/			
	Million gallons	Million gallons	Million gallons	Million gallons	Million gallons	Million gallons	Million gallons	Million gallons	Million gallons	Million gallons	Million gallons
1930	54.8	207.8	54.6	317.2	187.8				121.9	7.5	317.2
1931	46.4	197.2	36.7	280.3	161.3				115.6	3.4	280.3
1932	52.0	134.7	34.7	221.4	117.9				102.8	.7	221.4
1933	63.5	195.4	39.6	298.5	175.9				115.7	6.9	298.5
1934	51.4	242.3	70.2	363.9	206.6				152.5	4.8	363.9
1935	60.3	195.2	56.3	311.8	192.2				104.4	15.2	311.8
1936	71.2	311.3	48.0	430.5	240.5				168.1	21.9	430.5
1937	72.1	217.3	64.1	353.5	194.7				151.5	7.3	353.5
1938	85.3	177.6	48.3	311.2	182.1				112.6	16.5	311.2
1939	76.0	240.0	48.9	364.9	242.5				110.9	11.5	364.9
1940	73.6	331.4	59.0	464.0	285.0				173.5	5.5	464.0
1941	71.2	326.0	62.1	459.3	337.7				115.4	6.2	459.3
1942	72.5	145.1	47.7	265.3	198.1	38.5	48.9	6.1	93.5	.3	4/ 291.9
1943	82.8	286.1	62.9	431.8	320.7	41.2	59.9	5.8	106.9	.2	4/ 427.8
1944	92.2	205.4	50.3	347.9	289.1	47.3	68.2	6.1	121.6	.4	4/ 411.1
1945	92.6	91.4	57.7	241.7	147.8	46.6	82.3	5.6	134.5	2.1	4/ 284.4
1946 6/	76.4	147.0	54.3	277.7	7/ 100				190.7	.4	291.1

1/ Estimated production of cane and beet sugar molasses for industrial and feed uses; excludes beet molasses used for desugarizing. 2/ Compiled from reports of Bureau of Foreign and Domestic Commerce, and Bureau of the Census. Inshipments are from Hawaii and Puerto Rico. 3/ Ethyl and butyl alcohol, acetone, and other products of industrial alcohol plants and distilled spirits: Bureau of Internal Revenue. 4/ Derived from "Industrial Molasses: United States Supply and Utilization, 1943-46," by United States Tariff Commission, July 1947. 5/ Not adjusted for change in stocks for the years 1930-41 and 1946-47. 6/ Preliminary. 7/ Partly estimated.

Hydrol is used largely for feed. Most of the corn processing plants producing hydrol are located in the Corn Belt. During 1943-45, around 14 or 15 million gallons of hydrol were produced each year, over 80 percent of which was used for feed. Production of hydrol probably was smaller in 1946 than in the 1943-45 period, but with the increased rate of corn processing this year, hydrol production probably will be above that of the war years. Statistics on the quantity of corn sugar sold by the wet-processing industry indicate that hydrol production totaled around 8 to 10 million gallons annually in the years just before the war, and from about 13 to 17 million gallons annually, during and after the war.

Table 10. - Industrial cane and beet sugar molasses: Utilization, United States, 1942-46 1/

Use	Year beginning July			
	1942-43	1943-44	1944-45	1945-46
	1,000 gallons	1,000 gallons	1,000 gallons	1,000 gallons
Used by industrial alcohol plants 2/	189,390	309,603	278,456	139,531
Livestock feeds:				
Mixed feeds and molasses pulp	40,322	50,038	56,412	65,848
Direct feed and ensilage 3/	8,556	9,891	11,827	16,441
Total for feed	48,878	59,929	68,239	82,289
Yeast, citric acid, and vinegar	38,455	41,172	47,258	46,590
Distilled spirits	8,670	11,087	10,611	8,262
Other uses 4/	6,075	5,786	6,122	5,560
Total	291,468	427,577	410,686	282,232
	Percentage of total utilization			
	Percent	Percent	Percent	Percent
Used by industrial alcohol plants 2/	65.0	72.4	67.8	49.4
Livestock feed 3/	16.7	14.0	16.6	29.2
Yeast, citric acid, and vinegar	13.2	9.6	11.5	16.5
Distilled spirits	3.0	2.6	2.6	2.9
Other uses 4/	2.1	1.4	1.5	2.0
Total	100.0	100.0	100.0	100.0

Derived from "Industrial Molasses, United States Supply and Utilization, 1943-46," United States Tariff Commission, July 1947.

1/ Excludes beet molasses used for desugarizing.

2/ Ethyl and butyl alcohol, acetone, and other products of industrial alcohol plants. Compiled from annual reports of the Alcohol Tax Unit, Bureau of Internal Revenue.

3/ Includes a small amount of molasses sold direct to farmers for insect control.

4/ Molasses used for flavoring and coloring, prepared insecticides, lactic acid, printing, leather tanning, and other miscellaneous uses. Excludes molasses and sirups for edible uses, which usually amount to around 4 million gallons annually.

Information available on the utilization of molasses by commercial mixed feed manufacturers during 1940-42 indicates that about two-thirds of the molasses fed went into commercial mixed dairy feeds. Most of the remainder went into feeds for beef cattle, other meat animals, and workstock. Only relatively small quantities were used in poultry rations.

The price of molasses usually is somewhat less per ton than feed grain. Beet and cane feeding molasses contain about 70 to 75 percent as much digestible nutrients per pound as corn. It takes about 6 to 7 gallons of molasses to equal the feeding value of 1 bushel of corn. Molasses is low in protein content but is high in carbohydrate content, in minerals, and in some vitamins. Molasses is very palatable to most livestock. When it is sprayed on rough and coarse feeds the quantities consumed may be materially increased.

Table 11.- Industrial cane and beet sugar molasses: Source of quantities used for livestock feed, United States, 1942-46

Year beginning July	Beet sugar factories	Louisiana raw sugar mills	East coast refiners	Gulf coast refiners	All other United States producers plus Hawaii 1/	Dealers 2/	Total
	1,000 gallons	1,000 gallons	1,000 gallons	1,000 gallons	1,000 gallons	1,000 gallons	1,000 gallons
				Mixed feed and molasses pulp			
1942	5,514	4,106	1,532	1,005	11,680	16,485	40,322
1943	3,699	4,893	3,224	1,816	14,337	22,069	50,038
1944	3,025	7,671	3,940	2,055	14,079	25,642	56,412
1945	3,225	7,494	2,535	1,490	22,597	28,507	65,848
				Direct feed and ensilage 3/			
1942	2,468	422	60	24	4,862	720	8,556
1943	2,281	246	103	40	6,310	911	9,891
1944	2,472	434	218	40	6,781	1,882	11,827
1945	2,879	1,294	96	39	11,258	875	16,441
				Total for livestock feed			
1942	7,982	4,528	1,592	1,029	16,542	17,205	48,878
1943	5,980	5,139	3,327	1,856	20,647	22,980	59,929
1944	5,497	8,105	4,158	2,095	20,860	27,524	68,239
1945	6,104	8,788	2,631	1,529	33,855	29,382	82,289

Source: "Industrial Molasses: United States Supply and Utilization, 1943-46," United States Tariff Commission, July 1947.

1/ Includes Florida raw sugar mills, west coast refiners, and dealers in Hawaiian molasses received in the United States.

2/ A dealer is any person who sells molasses (other than a broker) which he has acquired from a producer or importer. Dealers in Hawaiian molasses are included under "All other United States producers plus Hawaii."

3/ Includes small amount of molasses sold directly to farmers for insect control.

The price of blackstrap molasses at New York and corn at Chicago is shown in table 13. On the average, during the 20-year period 1926-45, the price per bushel of No. 3 Yellow corn at Chicago was equal to the price of 8.3 gallons of molasses at New York, although the relationship varied considerably from year to year.

The price of feeding molasses was low in relation to corn during most of the 1934-40 period. Following the severe droughts of 1934 and 1936, feed grain prices were unusually high in relation to molasses. During the war years molasses prices were unusually high in relation to corn. This mainly reflected the strong demand for molasses for alcohol production for war use. The sharp increase in corn prices during the past few months has brought the price of corn relatively higher than molasses. In July the price of No. 3 corn at Chicago was equal to the price of about 10 gallons of molasses. With a smaller corn crop in prospect and with a reduced demand for industrial molasses for alcohol production, more molasses may be used for feed during 1947-48 than during other recent years.

Table 12.- Hydrol: Utilization, United States, calendar years, 1943-45

Use	Calendar years		
	1943	1944	1945
	1,000 gallons	1,000 gallons	1,000 gallons
Livestock feed			
Mixed feeds	11,552	11,373	11,716
Direct feed and ensilage 1/	812	869	657
Total for feed	12,364	12,242	12,373
Flavoring and caramel color 2/	507	974	651
Yeast	171	95	127
Miscellaneous 3/	2,110	965	1,124
Total	15,152	14,276	14,275
	Percentage of total utilization		
	Percent	Percent	Percent
Livestock feed			
Mixed feed	76.3	79.6	82.0
Direct feed and ensilage 1/	5.4	6.1	4.6
Total for feed	81.7	85.7	86.6
Flavoring and caramel color 2/	3.3	6.8	4.6
Yeast	1.1	.7	.9
Miscellaneous uses 3/	13.9	6.8	7.9
Total	100.0	100.0	100.0

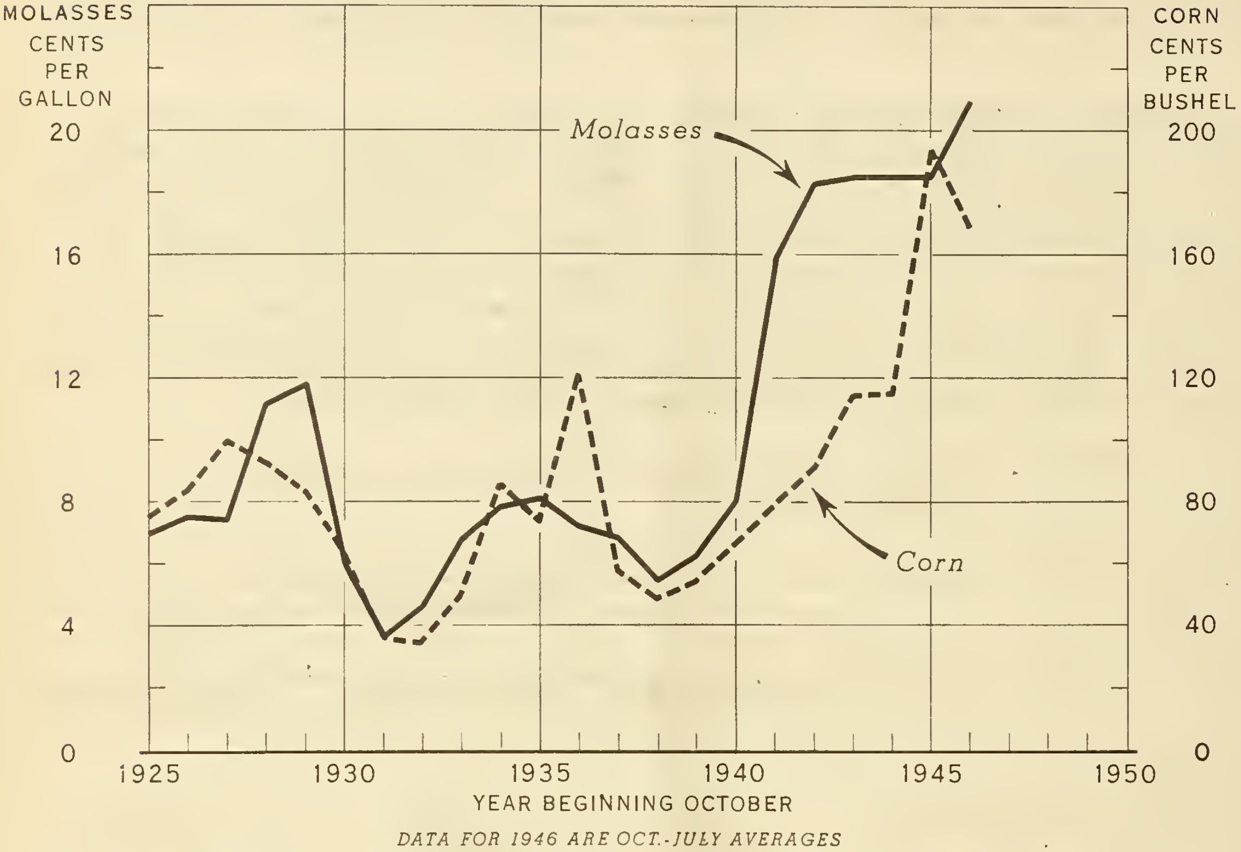
Source: "Industrial Molasses: United States Supply and Utilization, 1943-46," United States Tariff Commission, July 1947.

1/ Includes hydrol sold directly to farmers for insect control.

2/ Includes other miscellaneous products for human consumption.

3/ Dyestuffs, leather tanning, and numerous miscellaneous uses. Includes deliveries to dealers in industrial molasses.

WHOLESALE PRICES OF BLACKSTRAP MOLASSES, IN TANKS, NEW YORK, AND NO. 3 YELLOW CORN, CHICAGO, 1925-46



DATA FOR 1946 ARE OCT.-JULY AVERAGES

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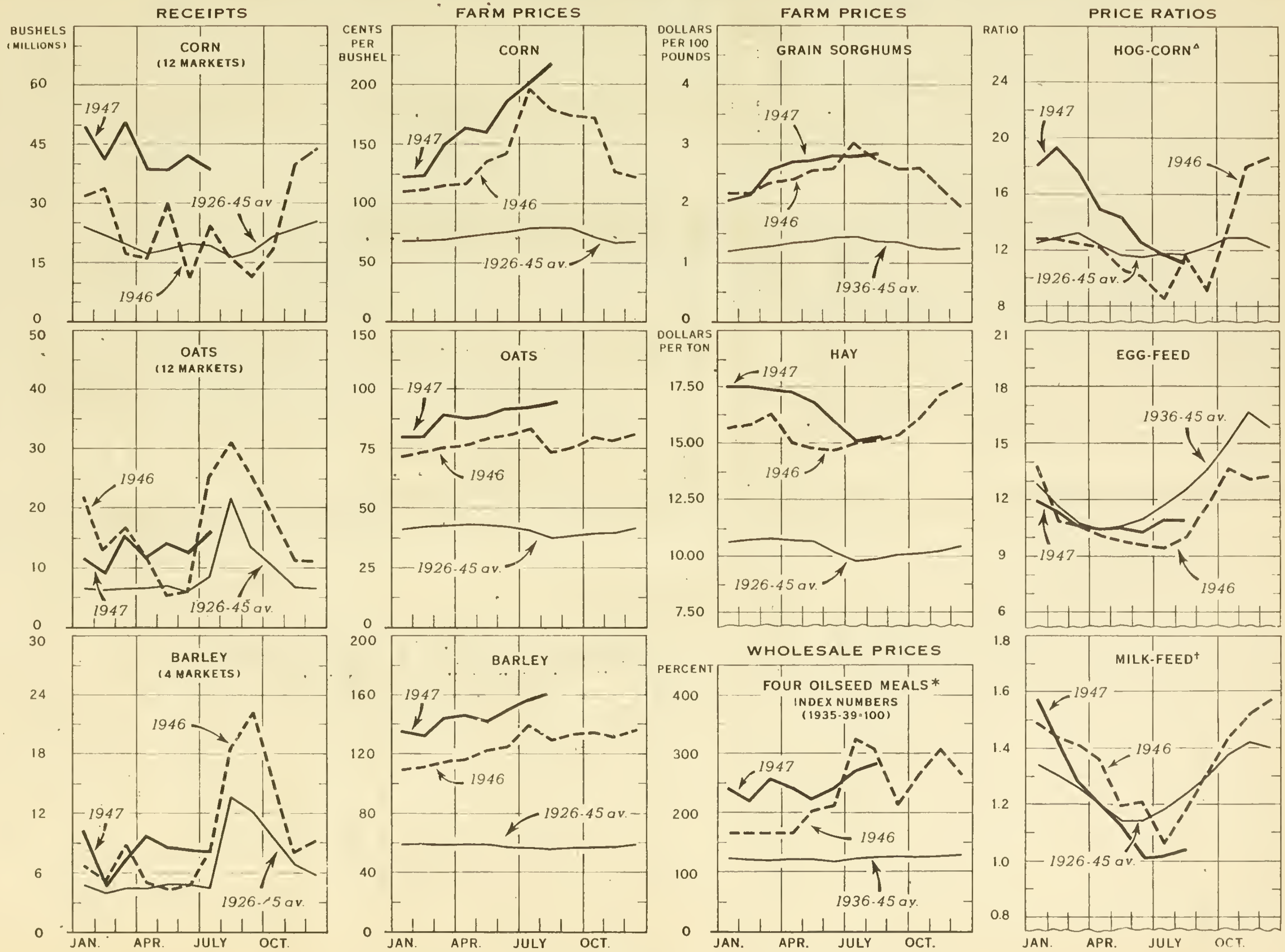
Table 13.- Wholesale prices of blackstrap molasses, in tanks, New York, and No. 3 Yellow corn, Chicago, 1925-47

Year beginning October	Molasses 1/	Corn 2/	Year beginning October	Molasses 1/	Corn 2/	Year beginning October	Molasses 1/	Corn 2/
	Cents per gallon	Cents per bushel		Cents per gallon	Cents per bushel		Cents per gallon	Cents per bushel
1925	6.97	75.2	1933	6.81	49.7	1940	7.99	66.9
1926	7.54	84.0	1934	7.85	85.8	1941	15.83	79.3
1927	7.46	99.8	1935	8.11	73.6	1942	18.29	90.8
1928	11.17	92.6	1936	7.24	121.0	1943	18.50	114.3
1929	11.79	83.9	1937	6.81	57.2	1944	18.50	115.2
1930	6.01	62.3	1938	3/5.40	48.4	1945	18.50	194.0
1931	3.62	36.1	1939	6.27	54.3	1946 4/	20.93	168.6
1932	4.60	34.5						

Compiled from Fruit Products Journal and American Vinegar Industry through April 1933; subsequently from Oil, Paint, and Drug Reporter. Corn prices compiled from the Chicago Daily Trade Bulletin through May 1942; and from the Chicago Journal of Commerce, June 1942 to date.

1/ Simple average.
2/ Average weighted by sales.
3/ March 1939 through March 1947 quoted as f.o.b. North Atlantic ports.
4/ October-July average. During July 1947 the price of molasses averaged 21.75 cents per gallon and corn $2.17 per bushel.

MARKET RECEIPTS, PRICES OF SPECIFIED FEEDS, AND LIVESTOCK-FEED PRICE RATIOS



* SOYBEAN, COTTONSEED, LINSEED AND PEANUT CAKES AND MEALS

^Δ BASED ON PRICES RECEIVED BY FARMERS

† MILK-FEED PRICE RATIO INCLUDES DAIRY PRODUCTION PAYMENTS FROM OCTOBER 1943 THROUGH JUNE 1946

9-9-4

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Table 14. - Production and stocks of specified byproduct feeds, October-June, 1945-47

Item	1945-46 Oct.-June	1946-47 Oct.-June	1946 May	1946 June	1947 May	1947 June
	1,000 tons	1,000 tons	1,000 tons	1,000 tons	1,000 tons	1,000 tons
Production						
Cottonseed cake and meal	1,252.9	1,191.4	45.1	23.3	45.9	30.5
Soybean cake and meal	3,021.1	3,259.5	337.6	290.1	359.7	319.4
Linseed cake and meal	409.6	281.2	35.6	43.3	24.1	30.3
Peanut cake and meal	70.1	106.0	7.2	6.6	9.5	5.0
Copra cake and meal	36.9	151.4	5.9	7.3	17.8	18.0
Corn gluten feed and meal	568.6	762.0	67.6	73.5	86.1	82.0
Brewers' dried grains	158.5	159.5	16.5	17.3	19.2	21.2
Distillers' dried grains	272.8	339.4	19.7	17.9	34.7	21.8
Wheat millfeeds	3,681.3	4,630.9	252.5	259.0	474.5	473.2
Rice millfeeds	131.4	138.4	5.5	4.0	5.7	3.7
Alfalfa meal	808.7	548.8	116.9	171.0	79.5	115.0
Fish cake and meal	97.5	84.8	7.8	20.8	6.4	21.3
Dry and powdered skim milk	5.0	8.3	1.1	1.2	1.7	2.6
Stocks end of period						
Cottonseed cake and meal	40.3	87.6	46.8	40.3	117.0	87.6
Peanut cake and meal	2.0	4.8	2.0	2.0	8.5	4.8
Brewers' dried grains	2.7	3.4	2.7	2.7	2.4	3.4
Distillers' dried grains	2.3	6.9	2.5	2.3	9.9	6.9
Alfalfa meal	56.4	66.7	28.5	56.4	38.4	66.7

Compiled as follows: Cottonseed cake and meal and wheat millfeeds, Bureau of the Census; soybean, linseed, and copra cakes and meals, Grain Branch, Production and Marketing Administration, derived from Census crushings report; gluten feed and meal, brewers' and distillers' dried grains, rice millfeeds, and alfalfa meal, Production and Marketing Administration; fish cake and meal from Fish and Wildlife Service, Department of the Interior.